Small Business/Final Regulatory Flexibility Analysis.
NR 243 Revision

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Prepared: April 2006

Does the proposed rule have a significant economic impact on a substantial number of small businesses?

Yes _____ No _____X_____.

While the economic impact might be significant for some small businesses, the number of small businesses affected is small. Currently the state permits 145 livestock operations (and 5 pending permit coverage). The revised rule, when promulgated, will immediately impact 10-15 more. Annually, 15 new CAFOs receive permit coverage. The revised rule will increase that number by 1 more per year. The total of impacted operations in the first year is 165 out of 30,000 livestock operations statewide. The Final Regulatory Flexibility Analysis does not define what is meant by a "substantial number", but it seems unlikely that 0.55% of all livestock operations in the state to even 0.8% in five years would be considered substantial. Therefore the conclusion is that the proposed rule will not have a significant economic impact on a substantial number of small businesses. See the fiscal impact report for a discussion on the cost to those operations that will be affected.

The original proposed rule contained a mixed animal unit calculation to determine who is required to apply for a WPDES permit. That calculation could potentially have affected a much larger number of operations (potentially more than 300 new operations according to some within the livestock industry). In response to public comment, the Department modified the method of calculating mixed animal units. The number of operations impacted under the revised method is reflected above.

I. Identify and discuss why the rule includes or fails to include any of the following methods for reducing the impact on small business.

A. Less stringent compliance or reporting requirements.

For permitted operations, the public hearing version of the code does not significantly alter current code requirements for compliance or reporting, other than the addition of certain types of self-inspections and the maintenance of a weather log that are federally required. Most, if not all, of the monitoring and reporting requirements associated with nutrient management-related activities are currently required of permitted operations. These requirements are critical components of ensuring permittee compliance with permit requirements. Since these are federal requirements, the Department may not waive or provide less stringent requirements. The Department is in the process of creating standardized reporting forms that will increase the ease and consistency of reporting.

B. Less stringent schedules or deadlines for compliance or reporting requirements.

The Department has limited flexibility to be less stringent, because NR 243 must reflect federal regulations. Federal regulations mandate that permittees be in compliance with nutrient management plan requirements (e.g., phosphorus-based plans) by July 31, 2007, at the latest. In addition, many of the reporting requirements are tied directly to determining permit compliance.

Upon promulgation of the proposed code changes, existing CAFOs would need to comply with storage requirements for liquid manure by January 1, 2010, and new CAFOs would comply upon

permit issuance. Operations would also need to have two months of solid manure storage, typically upon permit issuance, re-issuance or modification, to comply with restrictions on surface applications of solid manure on frozen or snow-covered ground, which take effect January 1, 2008 or otherwise stack manure throughout the winter. The schedules provide sufficient time for facilities to modify their operations to meet the deadlines. Once the rule is promulgated, new operations will already be aware of the requirements for storage and they will incorporate storage facilities into their new construction or expansion plans.

The Department included a number of provisions in the proposed code to accommodate concerns of small businesses and provide flexibility in the code. Examples of this include:

- Allowing the stacking of manure in place of requiring the construction of a more costly manure storage facility for certain types of solid manure.
- Allowing operations to temporarily reduce required storage levels from 180-days to 150-days in order to accommodate incremental expansions.
- Allowing operations that are covered under a permit for the first time, additional time to construct storage facilities if the facilities are not completed at the time of permit issuance (until November 30th of the year in which they would be issued a permit).

C. Consolidation or simplification of compliance or reporting requirements.

Several provisions have been made to consolidate and simplify reporting under this rule. Quarterly reports will be compiled but submitted only once a year, as part of the Annual Report. Standardized Annual Landspreading Reports and Daily Logs have been created to increase convenience for and consistency among operators. An effort is underway to create a standard inspection form for daily, weekly and quarterly inspections and incorporate the new Annual and daily log reporting format into nutrient management planning software being created by UW-Extension called SNAP Plus, to enable automatic generation of these reports.

D. The establishment of performance standards in lieu of design or operational standards.

Where possible, the rule tries to create performance standards. However, in some cases this flexibility can lead to permit noncompliance and water quality impacts if an operator doesn't understand how to meet the performance standard. To balance this, both the current version of NR 243 and the proposed revisions specify Best Management Practices (BMPs) where the Department has determined that BMPs, versus performance standards, will best facilitate permit compliance.

In addition, the Department received comments that certain performance standards were too broad. In particular, in response to public comment, the Department revised the restriction that manure may not run off any application site and provided for circumstances under which runoff could occur. In response to the removal of this performance standard, the Department included more prescriptive restrictions, particularly as it relates to forecasted precipitation.

E. The exemption from any or all requirements of the rule.

Under current NR 243, an animal feeding operation is required to apply for a WPDES permit under one of two scenarios. The first is if the operation is defined as a large CAFO that manages 1,000 animal units or more based on multiple animal species and age groups. The second is if a medium or small animal feeding operation discharges to navigable waters. In this second scenario operations with fewer than 1,000 animal units may be defined as a CAFO because they are significant contributors of pollution to navigable waters, or they cause the bacterial contamination of wells. NR 243 was revised to accommodate a third scenario from EPA. Under federal law, all animal feeding

operations defined as a large CAFO are required to apply for a WPDES permit because they have 1,000 animal units or more based strictly on one animal species or age of species.

As a result of revisions made in response to public comment and federal court decisions, large operations that do not discharge to waters of the state do not need to apply for a permit. However, it will be very difficult for large operations to not have a discharge to waters of the state in Wisconsin due to our climate, the ubiquitous nature of water resources in the state, and the likelihood of manure or process wastewater related pollutants entering waters of the state from land application and manure storage practices.

Operations that are defined as CAFOs based on combining the numbers of different animal species (e.g., turkey and dairy) or mature and immature animals (e.g., milking cows and heifers) at a given operation are not automatically required under federal law to obtain WPDES permits. This is a state requirement under the prior federal law and current NR 243. The reason for combining all animals together is still valid. Operations with combined animal types produce roughly the same amount of manure, if not more in some cases as single species CAFOs and have the same potential to impact water quality. In addition, most of these CAFOs may already fit the definition of a medium CAFO due to discharges to navigable waters from either the production area or land application areas.

By federal definition, animal feeding operations with 301-999 animal units do not automatically have to apply for WPDES permits if they do not have discharges to navigable waters. These operations would have to apply for a WPDES permit if they have a discharge from the production area, a significant discharge from land application areas to navigable waters or cause the bacterial contamination of a well. Also by federal definition, animal feeding operations with 300 or fewer animal units are not considered a CAFO and do not need to apply for a permit unless they are designated by the Department to be a CAFO.

Once an operation is determined to be a CAFO and is covered under a WPDES permit, it must comply with federal regulations, though the Department does have some flexibility in establishing permit conditions for CAFOs with fewer than 1,000 animal units. For example, while the "no discharge of pollutants to waters of the state" requirement for large CAFOs does not apply to medium and small CAFOs, medium and small CAFOs would be expected to address discharges from their operations in a manner that protects water quality.

II. Summarize the issues raised by small business during the rule hearings, any changes made in the proposed rule as a result of alternatives suggested by small business and the reasons for rejecting any alternatives suggested by small business.

As a result of comments received during the public hearing process, the Department has modified the formula for determining what constitutes a large CAFO. Producers and producer groups were concerned about how animal types were combined to determine if an operation was a large CAFO (i.e. it met or exceeded the 1,000 animal unit threshold) and needed to apply for a permit. The Department had originally proposed using the conversion factors provided by EPA and combining them with the Department's existing mixed animal unit approach. However, EPA's conversion factors were higher for some species. This could have resulted in an operation that currently has just under the 1,000 animal unit threshold going over 1,000 animal unit threshold using the new conversion factors. The final proposal is to continue using the current NR 243 mixed animal unit numbers in the proposed mixed animal unit calculation and to add the federal requirement for determining a CAFO based on a single animal type. This would likely result in a few heifer-only operations and some poultry operations requiring a permit, where they don't now, as a result of the federal single animal type calculation. Otherwise, the number of permittees under the mixed animal unit calculation will remain essentially the same when the rule is promulgated. The debate over mixed

animal unit calculations does not impact operations that had a single animal type over 1,000 animal units as defined by EPA's rule. These operations would need to get a permit, regardless.

In response to concerns of producers and producer groups, the Department also created an allowance for discharges of manure and process wastewater from CAFO land application activities, provided certain criteria were met. Previously, the requirement was that applied manure and process wastewater could not run off the application site at any time.

Recognizing the additional timeframe associated with revisions to NR 243, the Department has extended the date by which existing operations need to comply with winter spreading restrictions for solid manure from January 1, 2007 to January 1, 2008.

In addition, the Department has increased the time temporary unconfined manure stacks (headland stacks) are allowed to remain in place. This was in response to producer and producer group concerns about potential compaction issues when land applying winter-stacked manure in the spring. The code previously required that stacks be removed by June 1st of each year, but that has been extended to eight months from the date the stack was created. The Department also modified the rule in response to producer concerns that would allow operations to stack manure with greater than 32% solids during February and March instead of constructing two months of solid manure storage for these months, provided certain requirements are met.

The Department also has proposed to allow producers to use different methods of addressing phosphorus delivery to surface waters (Phosphorus Index or Soil Test Method) based on tracts of land identified by the Farm Service Agency. The public noticed version of the rule would have required operations to choose one method for their entire operation.

Small businesses were also concerned that the requirement to apply for a permit 12 months prior to becoming a CAFO would impede their ability to purchase other operations. In response, the Department will allow operations up to 90 days to apply for a WPDES permit if they become a large CAFO as a result of purchasing another animal feeding operation.

In response to small business comments, the Department also changed the allowances for distributing manure by allowing permittees that manipulate manure and distribute it under a DATCP license to transfer responsibility for the manure to the person receiving the manure.

Many of the changes made by the Department, some of those listed above, were made to improve consistency with rules and state technical standards such the Livestock Siting Rule (ATCP 51), ATCP 50 and NRCS Standard 590. However, there were a number of comments from producer and producer groups that did not result in changes to the code. Primary issues where restrictions on winter applied manure, requiring 180-day storage for liquid manure, headland stacking restrictions, requirements for distributed manure and monitoring and reporting requirements. Changes to these requirements were not made either because they were not protective of water quality, particularly potential impact to groundwater, or because they were mandated by federal CAFO rules.

III. Identify and describe any reports required by the rule that must be submitted by small business and estimate the cost of their preparation.

In accordance with revised federal rule requirements, reflected in the proposed version of NR 243, permittees must conduct frequent inspections of water lines (daily), storm water diversions (weekly) and storage facilities and runoff control systems (weekly) at the animal production area. These inspections are then summarized in a quarterly report and these quarterly reports are submitted to the Department on an annual basis. For land application activities, the proposed code requires periodic

manure and soil sampling, daily spreading logs documenting spreading activities, and a weather log. Permittees summarize this information and submit it to the Department as part of an annual report. The Department is in the process of creating standardized reporting forms that will increase the ease and consistency of reporting. Permitted operations must keep all records on-site for five years. Since these are federal requirements, the Department may not waive or provide less stringent requirements. The inspections, logs, sampling and reporting can be done by the permittee or by an employee. Many of the land application reporting requirements have been required of WPDES permittees for many years, and the daily and weekly inspections at the production area have been included in WPDES permits since April of 2003. Time is the issue for this activity. It will likely take an additional 15 minutes per day to complete the activities and record the results above and beyond those requirements already expected of permittees. The cost will depend on who completes the task and what their time is worth.

IV. Identify and describe any measures or investments that small business must take to comply with the rule and provide an estimate of the associated cost.

There are two investments that a small business is responsible for if permitted. The first is development of a nutrient management plan and the second is construction of manure storage facilities. Because nutrient management planning is already required, the additional nutrient management planning costs associated with the revisions to NR 243 represent an incremental increase in cost. Manure storage requirements are likely to cause the most significant increase in costs. See the fiscal impact report for costs associated with nutrient management planning and construction of manure storage facilities. It should be noted that EPA assumed that six months storage would be a minimum requirement to have adequate storage and were used in justification for the federal revisions. This is evidenced in the Cost Methodology Report prepared by EPA for the rules. With regard to fiscal impacts to producers, EPA assumed a minimum of six months storage – see pages 1-3 and 1-5 of the report. Also, in the federal register preamble, EPA mentioned that some northern states may need up to 270 days of storage – see federal register, p 7212, February 2003.

V. Identify the additional cost, if any, to the state in administering or enforcing a rule which includes any of the methods listed in I. A through E.

The Department expects a potential increase annualized cost of 1.5 FTE ($83,300) as a result of the proposed revisions. Since the WPDES permit program is a Department run program, the Department does not expect increases to local governments or other state agencies. The Department is in the process of creating standardized reporting forms that will increase the ease and consistency of reporting. See the fiscal estimate for costs to the state of implementation of the rule.

VI. Describe the impact on public health, safety and welfare, if any, caused by including in the rule any of the methods listed in I. A through E.

The Department does not have the flexibility to suspend reporting requirements or nutrient planning requirements or free any small business from the requirement to provide adequate manure storage. The changes the Department has made to the animal unit calculation for a CAFO will result in fewer operations requiring permits than proposed in the public noticed version. The permit is a means to track compliance with applicable rules. Applicable rules require proper handling and disposal of manure. If fewer facilities will be required to manage manure in an environmentally sensitive manner and the Department is not able to properly track nutrient management activities at an operation, the potential for impacts to water resources and to public health, safety and welfare increases.

Since large CAFOs concentrate the manure and process wastewater pollutant loads in smaller areas, they can cause local water quality impairment when the manure is not managed correctly. If an

operation has not received a permit, nutrient management and manure handling may not meet environmental standards and could result in a groundwater or surface water contamination. The state has recorded more than 50 manure spills over a recent twelve month period some of which resulted in fish kills and contamination of wells. Some of the operations responsible for these actions were permitted facilities.

Potential impacts to public health, safety and welfare include:

- groundwater contamination from nitrates and pathogens and the potential impact to public and private wells,
- fecal coliform bacteria reaching surface waters enjoyed by swimmers (full body immersion) and boaters (recreation) and the accompanying diseases associated with coliforms,
- phosphorus levels increase causing algal blooms. Algae can be unsightly, smelly, and interfere with navigability and recreational activities. Some algae produces toxins which can pose a serious health risk to swimmers or boaters that come in close proximity to the blooms.

FISCAL IMPACT REPORT
PRIVATE SECTOR

The state currently permits approximately 150 CAFOs (145 existing and 5 pending coverage) and anticipates adding an additional 15 CAFOs as a result of the rule, as proposed. The additional CAFOs will be facilities that meet the federal definition of a CAFO (1,000 animal units (AU) for a single animal species or age class). The determination that this rule will immediately impact 15 additional facilities is based on the information from the 2002 Census of Agriculture – State Data (USDA, National Agricultural Statistics Service) and information compiled by regional staff through discussions with representatives in the livestock industry in January, 2006. Annually, 15-16 additional operations will apply for permit coverage.

Number of Permitted CAFOs Under Current, and Proposed ch. NR 243 AU calculations		
	Current	**Proposed**
Dairy[1]	124	124
Heifer[2]	3	10
Dairy Calf[2]	1	3
Veal Calf[2]	0	2
Poultry[3]	11	15
Beef and Swine[4]	11	11
Total	150	165

[1] Dairy would see no increase due to federal numbers, but would maintain the status quo using the current mixed AU approach.

[2] Heifer, Dairy calf and Veal calf operations would experience the highest number of facilities affected by the federal AU calculation. The state is projecting an increase of seven heifer operations, two dairy calf and two veal calf operations

[3] For the federal and proposed approach, it is estimated that two additional broiler operations and two duck operations may require coverage under a WPDES permit as a result of changes to the federal AU number.

[4] Beef and swine operations would experience no immediate changes under these scenarios.

The majority of the permitted CAFOs currently are Dairy operations. A Dairy operation typically includes a number of milking/dry cows, heifers and calves. A typical 1,000 AU dairy operation may have as many heifers and calves as milking/dry cows. 700 milk cows alone will equal 1,000 AUs. Using the concept of an equal number of cows to heifers and calves, the herd size will be closer to 920 before reaching 1,000 AUs. The 2002 Census of Agriculture for Wisconsin indicates 44 dairy farms have a herd size of 1,000 or more. It is assumed that these are automatic CAFOs and are part of the 120 currently permitted dairy operations. The next category in the census is 500-999 herd size of which there are 145 farms. It is difficult to tell from the census numbers how many of these would equal 1,000 AUs but, clearly only a percentage of the 145 farms would have a 700-999 herd size. Assuming half may fall into this category, 72 additional farms would qualify as a CAFO. The state currently has 120 permitted dairy farms. 120 minus the 44 large herd size operations would result in an additional 76 permitted operations where the herd size is 700-999. This is more than the estimate, which would suggest that the state has already identified the operations that meet the current AU calculation approach. The federal calculation will not add any additional operations that are dairy (mixed animal units), so the

number of dairy operations that are CAFOs is not projected to change. However, solely heifer operations will see an increase in the number of CAFOs.

Cost to Small Businesses as a result of revisions to ch. NR 243 Wis. Adm. Code

Fiscal impacts on the private sector primarily relate to phosphorus-based nutrient management requirements and manure storage design requirements for both solid and liquid manure.

Nutrient management

The current version of ch. NR 243, Wis. Adm. Code, only requires a phosphorus-based nutrient management plan for facilities that drain to a nutrient impaired 303(d) listed waterbody or an outstanding or exceptional resource water. All others are nitrogen-based. A nitrogen-based plan generally requires less acreage for spreading manure to meet the needs of the crop. To meet the phosphorus needs of the crop may in some instances require the permittee to spread less manure per acre. The proposed ch. NR 243, Wis. Adm. Code, will require all CAFOs (existing and future) to use a phosphorus-based nutrient management planning process.

- Of the current 150 permitted facilities (145 existing and 5 pending), 60% (90 CAFOs) discharge to an ORW/ERW or impaired water and have already had to meet a phosphorus-based nutrient management plan requirement. This number is projected from the number of permits issued since 1999, when phosphorus-based nutrient management was introduced.
  (Source: Data from Department CAFO statistics and permits).

- Operations in Wisconsin
  - 85% of Wisconsin CAFOs are dairy CAFOs, and application trends indicate that dairy will continue to be the sector with the most CAFOs.
  - 8% are poultry operations.
  - 7% are swine or beef operations.

  (Source: Data from Department CAFO statistics and permits).

- Phosphorus-based nutrient management plans will limit application of manure to fields if those fields have a soil test phosphorus level above 100 ppm. Otherwise, the manure can be applied at the rate needed to meet the nitrogen needs of the crop, which is current practice. CAFOs would not expect to see increases in costs associated with phosphorus-based manure spreading unless the soil test phosphorus levels are above 100 ppm
  (Source: Business Impact Analysis for Proposed Changes to Chapter ATCP 50, Wis. Adm. Code NUTRIENT MANAGEMENT PROGRAM, December 2004).

- Approximately 11% of soils in the state currently test above 100 ppm soil test phosphorus
  (Source: Business Impact Analysis for Proposed Changes to Chapter ATCP 50,Wis. Adm. Code NUTRIENT MANAGEMENT PROGRAM, December 2004)

- Current permitted CAFOs range in size from 1,000 to 4,000 animal units although the majority are around 2,000 animal units. For the calculations we will use an average CAFO size of 2000 animal units.
  (Source: Data from Department CAFO statistics and permits).

- To manage manure based on phosphorus rather than nitrogen needs of the crop increases the cost by $5.63 per animal unit.
  (Source: DATCP Business Impact Cost Analysis Appendix 1 for revisions to ATPC 50)

If 40% of the current permittees are not yet using phosphorus-based nutrient management plan and all operations brought under the WPDES program due to federal requirements will need to apply manure based on phosphorus, then 75 CAFOs (60 current, 15 new) would need to implement phosphorus-based nutrient management as a result of the proposed revisions to chapter ch. NR 243, Wis. Adm. Code. 11% of these operations (8 CAFOs) would be located in areas of the state where soil test levels are 100 ppm or more and would experience a cost increase due to phosphorus-based nutrient management of $5.63/animal unit. The remaining 157 operations would incur no additional cost due to nutrient management.

8 operations x 2000 animal units/operation x $5.63 cost increase/animal unit = $90,080 cost increase for proposed phosphorus-based nutrient management requirements.

Almost two of the additional 16 operations per year that apply for permit coverage would experience soils that limit application of manure due to phosphorus, increasing the costs by $5.63/animal unit. Land may need to be rented (or purchased) for manure application in conformance with the nutrient management plan if the soils in the area are already high in phosphorus. This cost is already included in the $5.63/animal unit calculation.

Manure storage

The proposed ch. NR 243, Wis. Adm. Code will require additional liquid manure storage of 6 months. Some operations already provide this much storage and most new or significantly expanded operations choose, independent of ch. NR 243, Wis. Adm. Code to provide 6 months or more of storage, because it makes good business sense. The operations that are often caught with limited storage are operations that grow in herd size in small increments. Most existing operations without adequate storage for liquid manure, would have until January 1, 2010, to construct 180 days of storage.

- For the calculations, we will again use an average CAFO size of 2,000 animal units.

- The costs for liquid manure storage range from $0.35 to $0.55 per cubic foot of storage *(Source: DATCP engineering data).*

- A 2000 animal unit milking cow operation produces 736,100 cubic feet of manure and process wastewater in a 6 month period
  (Source: DATCP manure calculation spreadsheet).

- Therefore, based on per cubic foot costs and manure production, manure storage construction costs will be $257,664 to $404,900 for six months of storage, and half that for three months storage.

- For simplification, cost estimates are based on a dairy with only milking cows and a liquid manure handling system for all manure. This will likely overestimate the costs of manure storage because:
  - Dairy operations, especially milking cow operations, tend to have higher volumes of manure and higher process wastewater produced per animal unit than other animal types because of process wastewater inputs to storage (e.g., milking center wastes),

- Potential solid manure sources, which would require only 2 months of storage if the manure could not be stacked, are considered liquid sources requiring six months of storage, and
- Many poultry operations would be able to stack all their manure and would not be required to build any storage to comply with proposed storage requirements in ch. NR 243, Wis. Adm. Code

- Assume 50-80% of all current and immediately impacted CAFOs have or will have 6 months of liquid manure storage regardless of the proposed revisions to ch. NR 243, Wis. Adm. Code and would not be impacted by the storage provisions.
(Source: Survey of staff indicates up to 80% of current operations have 180 days storage.)

- Therefore, 33 (20%) to 82 (50%) of current and immediately impacted CAFOs would need to build some amount of storage to comply with proposed revisions to ch. NR 243, Wis. Adm. Code.

If 20-50% of current and immediately impacted CAFOs would not have built any storage unless required to do so by the proposed ch. NR 243, Wis. Adm. Code, the costs of manure storage is as follows:

20% of operations building 6 months storage: 33 x $257,664 = $8.5 million.
50% of operations building 6 months storage: 82 x $404,900 = $33.2 million.

If 20-50% of current and immediately impacted CAFOs would have built at least 3 months of storage regardless of the proposed ch. NR 243, Wis. Adm. Code, the costs of manure storage is as follows:

20% of operations building an additional 3 months of storage: 33 x $128,832 = $4.2 million.
50% of operations building an additional 3 months of storage: 82 x $202,450 = $16.6 million.

The range of costs associated with manure storage requirements is $4.2 million to $ 33.2 million for the current and immediately impacted CAFOs as a result of the rule revision.

It is expected that costs per operation for the estimated 16 operations per year that apply for permits will experience similar, or possibly decreased costs, since operations may build storage as part of their expansion plan prior to becoming a permitted operation.

Land : Some operations may be required to purchase land for manure storage facilities, but this is expected to be infrequent. Typically land in close proximity to animal housing areas is the most convenient location for storage and is usually owned by the operator.